

8 optical means for generating a laser beam suitable for impinging upon said
9 information track;

10 optical disc support means for supporting said disc in rotating relationship with said
11 laser beam;

12 means including focus servo means for focusing said laser beam upon said
13 information track and for maintaining said focus on said information track as said optical
14 disc is in rotational engagement with said laser beam;

15 means including speed servo control means for controlling the speed of said disc
16 rotation in a predetermined manner;

17 means including tracking servo means for controlling the positioning of the laser
18 beam as it impinges upon the rotating information track;

19 output connector means for making an imaging signal available for connection to an
20 external utilization means;

21 said optical means further including detector means having at least two modes of
22 operation;

23 said first mode of operation being employed for generating signals suitable for
24 application to said tracking servo means and said focus tracking servo means;

25 said first mode of operation being further employed for generating signals suitable
26 for application to a signal decode means for decoding the information stored in said
27 information track;

28 said second mode of operation being employed for temporarily interrupting said
29 signals suitable for application to both of said tracking servo and to said focus tracking
30 servo; and

31 said second mode further employed for connecting at least a quad sum read signal
32 to said output terminal for detecting and characterizing analyte structures positioned on
33 said disc;

1 84. The optical disc player as recited in claim 83 wherein said tracking means
2 includes radial tracking means and tangential tracking means.

1 85. The optical disc player as recited in claim 83 wherein said speed control signal

2 is applied to said utilization means for spatially identifying a point of impingement of said
3 laser beam as said detected signal is applied to said utilization means.

1 86. The optical disc player as recited in claim 83 wherein said utilization means
2 stores repeated scans of said analyte structure for storing information for identifying said
3 analyte structure.

1 87. The optical disc player as recited in claim 83 further including means responsive
2 to said tracking error signal for detecting and characterizing said analyte structure carried
3 by said disc.

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1 88. The optical disc player as recited in claim 83 further including means responsive
2 to said focus error signal for detecting and characterizing said analyte structure carried by
3 said disc.

1 89. The optical disc player as recited in claim 83 wherein said optical means and
2 said focus servo means are employed for focusing said laser beam on a plane shared by
3 the analyte structures and the operational structures for permitting concurrent and
4 discriminable acquisition of operational and analyte data, and said operational structure is
5 one of a track or groove formed in the laser proximal surface of the disc.

1 90. The optical disc player as recited in claim 89 wherein said operational structure
2 is one of a forward and a reverse wobble groove.

1 91. The optical disc player as recited in claim 89 wherein said operational structure
2 is one of a forward and a reverse standard CD information track.

1 92. An optical disc player for operating in combination with an output utilization
2 means and an optical disc, and said disc being formed having one of a spiral shaped or of
3 a concentric shaped information track conventionally formed on a first surface of said disc,
4 said track being formed with at least some operational structures for providing physical
5 indicia suitable for at least focus error signal generation and radial tracking error signal

6 generation, said disc having unidentified analyte structures positioned confocally with said
7 operational structures which form said information track, said player comprising:
8 optical means for generating a laser beam suitable for impinging upon said
9 information track, said optical means including detector means for generating at least a
10 focus error (FE) signal, a radial tracking error signal (TE) and a high frequency read signal
11 (RF, HF, quad sum);
12 optical disc support means for supporting said disc in rotating relationship with said
13 laser beam;
14 means including focus servo means and said focus error signal generated in said
15 detector means for focusing said laser beam upon said information track and for
16 maintaining said focus on said information track as said optical disc is in rotational
17 engagement with said laser beam;
18 means including speed servo control means for controlling the speed of said disc
19 rotation in a predetermined manner;
20 means including radial tracking servo means and said radial tracking error signal
21 generated by said detector means for controlling the radial positioning of said laser beam
22 as it impinges upon the rotating information track; and
23 output terminal means for making at least said RF signal available as an imaging
24 signal for connection to said external utilization means, said detector means having at least
25 two modes of operation, a first mode of operation being employed for generating signals
26 suitable for application to said radial tracking servo means and said focus tracking servo
27 means, said first mode also for generating signals suitable for application to a signal
28 decode means for decoding the information stored in said information track, and a second
29 mode of operation being employed for temporarily interrupting said signals suitable for
30 application to both of said radial tracking servo and to said focus tracking servo and for
31 connecting at least said read signal to said output terminal.

1 93. The optical disc player as recited in claim 92 wherein said first mode of
2 operation is further employed for generating signals suitable for application to a signal
3 decode means for decoding the information stored in said information track.

1 94. The optical disc player as recited in claim 92 further including means for
2 segregating the tracking signal from the quad sum (HF, RF) signal for permitting the quad
3 sum signal to be used to detect signals from analyte features.

1 95. The optical disc player as recited in claim 92 wherein said optical means and
2 said means for focussing said laser beam upon said information track, focus said laser
3 beam on a plan shared by said operational and analyte structures for permitting concurrent
4 and discriminable acquisition of operational data and analyte data.

1 96. The optical disc player as recited in claim 92 wherein said operational feature is
2 the physical structure forming the information track on one surface of the disc.

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1 97. The optical disc player as recited in claim 94 further including means for
2 characterizing said output signal from said summing detector while the laser beam is
3 traversing said analyte feature so that said means for characterizing detects and displays
4 the amplitude variation in the HF signal, and measures the duration of the reflected read
5 beam as it traverses said analyte signal for providing a substantially qualitative measure of
6 the size and configuration of said analyte feature.

1 98. An optical disc player adapted for operating in combination with an output
2 utilization means and an optical disc having one of a spiral shaped or of a concentric
3 shaped information track formed on a first surface of said disc, said track being formed with
4 at least some operational structures for providing physical indicia suitable for at least focus
5 error signal generation and radial tracking error signal generation, said disc having
6 unidentified analyte structures positioned confocally with said operational structures which
7 form said information track, said player comprising:

8 optical means for generating a laser beam suitable for impinging upon said
9 information track and said analyte structures;

10 optical disc support means for supporting said disc in rotating relationship with said
11 laser beam;

12 focus means including focus servo means for focusing said laser beam upon said
13 information track and for maintaining said focus on said information track as said optical

14 disc is in rotational engagement with said laser beam;
15 speed control means including speed servo control means for controlling the speed
16 of said disc rotation in a predetermined manner;
17 tracking means including radial tracking servo means for controlling the radial
18 positioning of the laser beam as it impinges upon the rotating information track;
19 output connector means for making an imaging signal available for connection to
20 external utilization means;
21 said optical means further including summing detector means having at least two
22 modes of operation, a said first mode of operation employed for generating signals suitable
23 for application to said radial tracking servo means and said focus tracking servo means,
24 and a second mode of operation employed for temporarily interrupting said signals suitable
25 for application to both of said radial tracking servo and to said focus tracking servo and for
26 connecting at least said read signal to said output connector means;
27 means for characterizing said output signal from said summing detector while the
28 laser beam is traversing said analyte feature, said means for characterizing detecting and
29 displaying the amplitude variation in the HF signal, and measuring the duration of the
30 reflected read beam as it traverses said analyte signal for providing a substantially
31 qualitative measure of the size and configuration of said analyte feature; and
32 means for segregating said analyte signals generated in said second mode of
33 operation from said operational signals generated in said first mode of operation, said
34 segregation means being responsive to operational signals and employed for switching
35 said detector means from said first mode of operation to said second mode of operation.

1 99. The optical disc player as recited in claim 98 wherein said segregation means
2 further includes segregation detection, recognition, and signaling means responsive to
3 indicia carried by said disc and operative for switching said detector means between at
4 least either of two modes of operation.

1 100. The optical disc player as recited in claim 99 wherein said indicia are pre-
2 stamped on or in said disc during forming of said disc.

1 101. The optical disc player as recited in claim 99 wherein said indicia include a pre-

2 stamped notch formed in the land area positioned between the wobble groove.

1 102. The optical disc player as recited in claim 99 wherein said indicia include pre-
2 stamped address indicia formed in a region of the disc read by said impinging read beam.

1 103. The optical disc player as recited in claim 102 wherein said pre-stamped
2 address indicia include a spatially addressable pattern of sub micron features.

1 104. The optical disc player as recited in claim 99 wherein said indicia include a bi-
2 phase mark and pit combination carried by said disc.

1 105. An optical disc player adapted for operating in combination with an output
2 utilization means and an optical disc, and said disc being formed with one of a spiral
3 shaped or of a concentric shaped information track on a first surface of said disc, said track
4 being formed with at least operational structures for providing physical indicia suitable for at
5 least focus error signal generation and radial tracking error signal generation, said disc
6 having unidentified analyte structures positioned confocally with said operational structures
7 which form said information track, said player comprising:

8 optical means for generating a laser beam suitable for impinging upon said
9 information track and said analyte structures;

10 optical disc support means for supporting said disc in rotating relationship with said
11 laser beam;

12 focus means including focus servo means for focusing said laser beam upon said
13 information track and for maintaining said focus on said information track as said optical
14 disc is in rotational engagement with said laser beam;

15 speed control means including speed servo control means for controlling the speed
16 of said disc rotation in a predetermined manner;

17 tracking means including radial tracking servo means for controlling the radial
18 positioning of the laser beam as it impinges upon the rotating information track;

19 output connector means for making an imaging signal available for connection to
20 external utilization means;

21 summing detector means associated with said optical means, said summing detector

22 means having at least two modes of operation including a first mode of operation employed
23 for generating signals suitable for application to said radial tracking servo means and said
24 focus tracking servo means, and a second mode of operation employed for temporarily
25 interrupting said signals suitable for application to both of said radial tracking servo and to
26 said focus tracking servo and for connecting at least said read signal to said output
27 connector means;

28 means for characterizing said output signal from said summing detector while the
29 laser beam is traversing said analyte feature, said means for characterizing employed to
30 detect and display the amplitude variation in the HF signal, and measure the duration of the
31 reflected read beam as it traverses said analyte signal to thereby provide a substantially
32 qualitative measure of the size and configuration of said analyte feature;

33 means for segregating said analyte signals generated in said second mode of
34 operation from said operational signals generated in said first mode of operation, said
35 segregation means being responsive to operational signals and employed for switching
36 said detector means from said first mode of operation to said second mode of operation;
37 and

38 said segregation means including means for the concurrent and discriminable
39 acquisition of signals from analyte features and for the segregation of tracking signals from
40 signals generated by readable analyte features disposed upon said disc and for producing
41 minimal variations in the HF signal during trackable reading of the optical disc.

1 106. The optical disc player as recited in claim 105 wherein said detector means
2 includes means for generating a focus error (FE) signal, a radial tracking error signal (TE),
3 and a high frequency read signal (RF).

1 107. The optical disc player as recited in claim 106 further including means for
2 controlling the tangential positioning of the laser beam as it impinges upon said information
3 track and as said track moves in relationship with said substantially stationary read beam.

1 108. The optical disc player as recited in claim 106 further including a focusing lens
2 in said optical means for confocally focusing said read beam on both operational and
3 analyte features as said read beam impinges upon an inverted disc having its surface

4 carrying both said operational and analyte features positioned as a proximally positioned
5 surface of said disc.

1 109. The optical disc player as recited in claim 106 wherein said tracking signals
2 recovered by said tracking servo signal recovery means from said operational features
3 positioned on said disc are standard in CD design.

1 110. The optical disc player as recited in claim 106 wherein said analyte features
2 are employed for generating high amplitude, high frequency events in said quad sum
3 (HF,RF) signal to thereby provide dimensional information about said analyte features.

1 111. The optical disc player as recited in claim 106 wherein said means for
2 characterizing further includes means for distinguishing generated signals that identify
3 operational features from generated signals that identify analyte features.

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1 112. The optical disc player as recited in claim 106 further including means for
2 controlling the tangential positioning of the laser beam as it impinges upon said information
3 track while said track moves in relationship with said substantially stationary read beam.

1 113. An optical disc player adapted for operating in combination with an optical disc
2 having a spiral shaped or a concentric shaped information track formed on a first surface of
3 said disc, said track being formed with at least one operational structure for providing
4 physical indicia suitable for at least focus error signal generation and tracking error signal
5 generation, said disc having unidentified analyte structures positioned confocally with said
6 operational structures, said player comprising:

7 optical means for generating a laser beam suitable for impinging upon said
8 information track;

9 optical disc support means for supporting said disc in rotating relationship with said
10 laser beam;

11 focus servo means for focusing said laser beam upon said information track and for
12 maintaining said focus on said information track as said optical disc is in rotational
13 engagement with said laser beam;

14 speed servo control means for controlling the speed of said disc rotation in a
15 predetermined manner;
16 tracking servo means for controlling the positioning of the laser beam as it impinges
17 upon the rotating information track;
18 output connector means for making an imaging signal available for connection to an
19 external utilization means; and
20 said optical means including detector means having at least two modes of operation
21 including a first mode of operation for generating signals suitable for application to said
22 tracking servo means and said focus tracking servo means, and for generating signals
23 suitable for application to a signal decode means for decoding the information stored in
24 said information track, said detector means having a second mode of operation for
25 temporarily interrupting said signals suitable for application to both of said tracking servo
26 and to said focus tracking servo.

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1 114. The optical disc player as recited in claim 113 wherein said second mode is
2 further employed for connecting at least said quad sum read signal to said output terminal
3 for detecting and characterizing analyte structures positioned on said disc.

1 115. The optical disc player as recited in either claim 113 or 114 further including
2 means for classifying patterns in the data that report one or more physical properties of
3 analyte structures disposed upon or within an optical disc.

1 116. The optical disc player as recited in claim 115 further including means for
2 interpreting clusters of said patterns.

1 117. The optical disc player as recited in claim 116 further including means for
2 mapping clusters of such patterns according to positional information present within the
3 digital data.

1 118. The optical disc player as recited in claim 111 and further comprising;
2 Means for trackable reading of an optical disc and for producing analyte signals from said
3 analyte structure.

1 119. The optical disc player as recited in claim 118 further including means for
2 discriminating said analyte response signals from normal operational electrical responses.

1 120. The optical disc player as recited in claim 119 further including means for
2 analyzing said data acquired by reading a respective optical disc having at least one
3 readable analyte structure.

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2 121. The optical disc player as recited in claim 120 wherein said optical disc is
3 trackable and supports at least one concurrently readable analyte structure.

1 122. The optical disc player as recited in claim 121 wherein said means for analyzing
2 includes means for identifying patterns in the data that report a physical property of the
3 analyte structure.

1 123. The optical disc player as recited in claim 122 further including a plurality of
2 physically nonidentical analyte structures readable concurrently with the disc's tracking
3 attributes.

1 124. The optical disc player as recited in claim 123 further including means for
2 determining the relative physical locations of two different analyte structures from data
3 acquired by reading operational features associated with the disc, said two different analyte
4 structures including a first analyte structure and a second analyte structure.

1 125. The optical disc player as recited in claim 124 further including means for
2 reporting a second pattern of a physical property of said second analyte structure, and said
3 means for determining includes means for reporting a first pattern of a physical property of
4 said first analyte structure.

1 126. The optical disc player as recited in claim 124 further including means for
2 calculating at least relative physical locations of said first and said second analyte
3 structures.

1 127. The optical disc player as recited in claim 126 further including means for
2 mapping the physical locations of analyte structures on a surface of a respective optical
3 disc.

1 128. The optical disc player as recited in claim 127 wherein said means for mapping
2 includes means for determining the relative physical location of at least one of the first and
3 second analyte structures.

1 129. The optical disc player as recited in claim 128 further including means for
2 marking a representation of said surface of said respective optical disc with at least one
3 object that indicates the at least one relative physical location.

1 130. An information storage and sample analysis medium, comprising:
2 a major surface having a planar surface area and a plurality of spaced-apart,
3 elongated, discrete surface indicia integral with said planar surface area;

4 said discrete surface indicia sequentially arranged in a plurality of substantially
5 parallel information tracks;

6 adjacent surface indicia along each track separated by interval portions of said
7 planar surface area;

8 said parallel information tracks separated by intertrack portions of said planar
9 surface area;

10 an outermost information track having an intertrack portion positioned on both sides
11 of said outermost information track;

12 said intertrack portions and said interval portions together defining said planar
13 surface area;

14 said discrete surface indicia having substantially uniform widths defining the width of
15 said information tracks;

16 said intertrack portions between adjacent information tracks having substantially
17 uniform widths;

18 each of said discrete surface indicia and said interval portions having variable length
19 to represent stored information; and

20 at least one of said intertrack portions carrying means for identifying regions of said

21 planar surface area suitable for supporting at least one analyte structure.

1 131. The information and analysis medium as recited in claim 130 wherein said
2 information tracks include respective turns of a spiral extending between an inner
3 peripheral portion to an outer peripheral portion of said major surface.

1 132. The information and analysis medium as recited in either claim 130 or 131
2 wherein said medium is disc-shaped.

1 133. The information and analysis medium as recited in claim 130 wherein said
2 discrete surface indicia include elongated markings in said major surface and said
3 information is stored as an interval portion followed by discrete surface indicia for
4 representing a forward disc having a positive image.

1 134. The information and analysis medium as recited in claim 130 wherein said
2 discrete surface indicia include elongated markings in said major surface of said member;
3 and said information is stored as discrete surface indicia followed by an interval portion for
4 representing a forward disc having a negative image.

1 135. The information and analysis medium as recited in claim 134 wherein said
2 elongated markings are of substantially uniform depth and bottom surfaces of said
3 markings lie in a substantially common plane spaced from the plane of said planar surface
4 area.

1 136. An information storage and sample analysis medium, comprising:
2 a major surface having a planar surface area and a plurality of spaced-apart,
3 elongated, discrete surface indicia integral with said planar surface area and extending
4 away from the plane of said planar surface area;

5 said discrete surface indicia sequentially arranged in a plurality of substantially
6 parallel information tracks;

7 adjacent surface indicia along each track separated by interval portions of said
8 planar surface area;

9 said parallel information tracks separated by intertrack portions of said planar
10 surface area;
11 said intertrack portions and said interval portions together defining said planar
12 surface area;
13 said discrete surface indicia having substantially uniform widths defining the width of
14 said information tracks;
15 said intertrack portions between adjacent information tracks having substantially
16 uniform widths;
17 each of said discrete surface indicia and said interval portions having variable
18 length;
19 said discrete surface indicia and said interval portions being employed for
20 representing stored information;
21 said discrete surface indicia including elongated markings in said major surface;
22 said stored information including at least address information for identifying spatial
23 locations on said major surface; and
24 at least one of said addresses being employed for designating a suitable surface
25 location for supporting at least one analyte structure.

1 137. The information and analysis medium as recited in claim 136 wherein said
2 discrete surface indicia include elongated markings in said major surface of said member
3 and said information is stored as an interval portion followed by discrete surface indicia for
4 representing a forward disc having a positive image.

1 138. The information and analysis medium as recited in claim 136 wherein said
2 discrete surface indicia include elongated markings in said major surface and said
3 information is stored as discrete surface indicia followed by an interval portion for
4 representing a forward disc having a negative image.

1 139. The information and analysis medium as recited in any one of claims 136, 137,
2 or 138 wherein said elongated markings are of substantially uniform depth.

1 140. The information and analysis medium as recited in any one of claims 136, 137,

2 or 138 wherein said information tracks include respective turns of a spiral extending
3 between an inner peripheral portion to an outer peripheral portion of said major surface.

1 141. The information and analysis medium as recited in claim 136 wherein said
2 medium is disc-shaped.

1 142. An information storage and sample analysis medium, comprising:
2 a major surface having a planar surface area and a plurality of spaced-apart,
3 elongated, discrete surface indicia integral with said planar surface area;
4 said discrete surface indicia sequentially arranged in a plurality of substantially
5 parallel information tracks;
6 adjacent surface indicia along each track separated by interval portions of said
7 planar surface area;
8 said parallel information tracks separated by intertrack portions of said planar
9 surface area;
10 said intertrack portions and said interval portions together define said planar surface
11 area;
12 said discrete surface indicia having substantially uniform widths defining the width of
13 said information tracks;
14 said intertrack portions between adjacent information tracks having substantially
15 uniform widths;
16 each of said discrete surface indicia and said interval portions having variable
17 length;
18 at least a portion of said discrete surface indicia and said interval portions being
19 employed for representing stored information;
20 a portion of said planar surface adapted for supporting at least one analyte structure;
21 and
22 means for providing positional information to identify said portion of said planar
23 surface adapted for supporting said at least one analyte structure.

1 143. The information and analysis medium as recited in any one of claims 130, 136
2 or 142 wherein said discrete surface indicia and said interval portions therebetween, are

3 capable of modulating the intensity of a light beam incident thereupon to thereby provide
4 optical contrast between said discrete surface indicia and said interval portions and
5 facilitate recovery of said stored information from said major surface of said member by
6 optical detection.

1 144. The information and analysis medium as recited in claim 142 wherein said
2 information tracks include respective turns of a spiral extending between an inner
3 peripheral portion to an outer peripheral portion of said major surface.

1 145. The information and analysis medium as set forth in claim 130 adapted to
2 transfer surface indicia to a body of disc material.

1 146. The information and analysis medium as set forth in any one of claims 130,
2 136 or 142 wherein the medium is adapted for transferring surface indicia to a body of disc
3 material in a stamping process.

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1 147. The information and analysis medium as set forth in any one of claims 130,
2 136 or 142 wherein the medium is adapted for transferring surface indicia to a body of disc
3 material in an embossing process.

1 148. The information and analysis medium as set forth in any one of claims 130,
2 136, or 142 wherein the medium may be written to after analysis of said analyte structure.

1 149. The information and analysis medium as set forth in any one of claims 130,
2 136, or 142 wherein the medium is a transmissive optical disc.

1 150. The information and analysis medium as set forth in any one of claims 130,
2 136, or 142 wherein the boundaries between said discrete surface indicia and said
3 intertrack portions adjacent thereto, are substantially linear, when viewed in a plan, in the
4 direction of the information tracks.

1 151. An information storage and sample analysis medium, comprising:

2 a disc-shaped member having a planar surface area on a major surface thereof and
3 a plurality of spaced-apart, elongated, discrete surface indicia integral with said planar
4 surface area;

5 said discrete surface indicia including elongated markings in said major surface;

6 said discrete surface indicia being sequentially arranged in a plurality of sequentially
7 parallel information tracks;

8 said information tracks including respective turns of a spiral extending between an
9 inner peripheral portion to an outer peripheral portion of said major surface of said member;

10 adjacent surface indicia along each track are separated by interval portions of said
11 planar surface area;

12 said parallel information tracks are separated by intertrack portions of said planar
13 surface area;

14 said intertrack portions and said interval portions, together define said planar surface
15 area, the boundaries between said discrete surface indicia and said intertrack portions
16 adjacent thereto being substantially linear, when viewed in plan, in the direction of the
17 information tracks;

18 said discrete surface indicia have substantially uniform widths defining the width of
19 said information tracks;

20 said elongated markings being substantially uniform depth, said markings being
21 located in a substantially common plane spaced from the plane of said planar surface area;

22 said intertrack portions between adjacent information tracks having substantially
23 uniform widths;

24 a portion of said planar surface adapted for supporting at least one analyte structure;

25 means for providing positional information to identify said portion of said planar
26 surface adapted for supporting said at least one analyte structure;

27 said discrete surface indicia having variable length to represent stored information;

28 and

29 said discrete surface indicia and said interval portions therebetween capable of
30 modulating the intensity of a light beam incident thereupon to thereby provide optical
31 contrast between said discrete surface indicia and said interval portions and facilitate
32 recovery of said stored information from said major surface by optical detection.

1 152. The information and analysis medium as set forth in any one of claims 133,
2 134, 135, 136, 137, 138, 139, or 141 wherein said markings are in the form of depressions
3 formed relative to said major surface.

1 153. An optical disc having a readable analyte structure, said disc comprising:
2 an information layer including a trackable structure that is followed by a read beam
3 of an optical disc reader, said trackable structure implemented to produce a holographic
4 image; and
5 at least one analyte structure, said trackable structure and said analyte structure
6 being concurrently readable by a single optical pickup.

1 154. The optical disc according to claim 153 wherein said holographic image is
2 projected in a plane confocal with said analyte structure.

1 155. The optical disc according to either claim 153 or 154 wherein said trackable
2 structure is an image of a wobble groove.

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1 156. An optical disc assembly, comprising:
2 an information layer;
3 a cover that assists in focusing an incident beam on said information layer
4 a substrate having a patterned surface and an additional surface, said patterned
5 surface contributing to said information layer; and
6 an operational structure associated with said information layer, said operational
7 structure trackable by an optical disc drive when said patterned surface of said substrate is
8 presented laser-proximal to said additional surface of said substrate.

1 157. The optical disc assembly according to claim 156 wherein said operational
2 structure is trackably disposed as a forward image in positive relief.

1 158. The optical disc assembly according to claim 156 wherein said operational
2 structure is trackably disposed in a plane of said information layer that is most distal to said
3 additional surface of said substrate.

1 159. The optical disc assembly according to claim 156 wherein said operational
2 structure is trackably disposed as a forward image in negative relief.

1 160. The optical disc assembly according to claim 156 wherein said operational
2 structure is trackably disposed in a plane of said information layer that is most proximal to
3 said additional surface of said substrate.

1 161. The optical disc assembly according to any one of claims 156, 157, 158, 159
2 or 160 wherein said operational structure includes a wobble groove.

1 162. The optical disc assembly according to claim 156 further including at least one
2 analyte structure readable concurrently with said operational structure.

1 163. The optical disc assembly according to any one of claims 157, 158, 159 or 160
2 further including at least one analyte structure readable concurrently with said operational
3 structure.

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1 164. The optical disc assembly according to claim 161 further including at least one
2 analyte structure readable concurrently with said operational structure.

1 165. The optical disc assembly according to claim 162 wherein said analyte
2 structure is disposed confocally with said operational structure.

1 166. The optical disc assembly according to claim 163 wherein said analyte structure
2 is disposed confocally with said operational structure.

1 167. The optical disc assembly according to claim 164 wherein said analyte structure
2 is disposed confocally with said operational structure.

1 168. The optical disc assembly according to claim 162 wherein said analyte
2 structure is an analyte-specific signal element.

1 169. The optical disc assembly according to claim 163 wherein said analyte
2 structure is an analyte-specific signal element.

1 170. The optical disc assembly according to claim 164 wherein said analyte structure
2 is an analyte-specific signal element.

1 171. The optical disc assembly according to claim 165 wherein said analyte structure
2 is an analyte-specific signal element.

1 172. The optical disc assembly according to claim 166 wherein said analyte structure
2 is an analyte-specific signal element.

1 173. The optical disc assembly according to claim 167 wherein said analyte structure
2 is an analyte-specific signal element.

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1 174. The optical disc assembly according to claim 165 wherein said information
2 layer further includes a reflective layer, and said analyte structure is disposed laser-
3 proximal to said reflective layer when said substrate patterned surface is presented laser-
4 proximal to said additional surface of said substrate.

1 175. The optical disc assembly according to claim 165 wherein said information layer
2 further includes a reflective layer, and said analyte structure is readably disposed on a disc
3 surface more distant from said substrate additional surface than is said reflective layer.

1 176. The optical disc assembly according to either claim 174 or 175 wherein said
2 non-opertional structure is disposed upon a surface of said reflective layer.

1 177. An optical disc assembly having a readable analyte structure, said disc
2 assembly comprising:

3 an information layer having a structure trackable by an optical disc reader;
4 a cover to assist in focusing an incident beam on said information layer; and

5 at least one analyte structure, said trackable and analyte structures being
6 concurrently readable by a single optical pickup.

1 178. The optical disc assembly according to either claim 156 or 177 wherein said
2 cover is nonintegral to said disc and attachable thereto.

1 179. The optical disc assembly according to claim 178 wherein said cover is
2 reversibly attached to said disc.

1 180. The optical disc assembly according to claim 178 wherein said cover is
2 moveably attached to said disc.

1 181. The optical disc assembly of claim 180 wherein said cover is hingeably
2 attached to said disc.

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1 182. The optical disc assembly according to either claim 156 or 177 wherein said
2 cover consists essentially of a material selected from the group consisting of plastic and
3 glass.

1 183. The optical disc assembly according to claim 182 wherein said cover consists
2 essentially of plastic.

1 184. The optical disc assembly according to claim 183 wherein said cover consists
2 essentially of polystyrene.

1 185. The optical disc assembly according to claim 183 wherein said cover consists
2 essentially of polycarbonate.

1 186. The optical disc assembly according to either claim 156 or 177 wherein said
2 assembly has a diameter in a radial plane between 110 - 130 mm and a depth between 1.1
3 - 1.3 mm.

1 187. The optical disc assembly according to claim 156 or 177 wherein said analyte
2 structure is disposed upon a disc-proximal side of said cover.

1 188. An optical disc having a readable analyte structure, said disc comprising:
2 a first reflective layer;
3 a second reflective layer;
4 a analyte structure disposed on a predetermined side of said second reflective layer;
5 and
6 a trackable structure associated with at least one of said first and second reflective
7 layers, said trackable structure configured to allow an incident beam of an optical disc
8 reader to track therealong, and said analyte structure being disposed readably with said
9 trackable structure.

1 189. The optical disc according to claim 188 wherein said analyte structure and said
2 trackable structure are readable by a single optical pickup.

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cont

1 190. The optical disc according to claim 188 wherein said second reflective surface
2 is semireflective.

1 191. The optical disc according to claim 190 wherein said analyte structure is
2 disposed confocally with a surface of either said first reflective layer or said semireflective
3 layer.

1 192. The optical disc according to claim 190 wherein said analyte structure is
2 disposed confocally with a surface of said semireflective layer.

1 193. The optical disc according to any one of claims 188, 189, 190, 191, or 192
2 wherein said analyte structure is disposed confocally with a surface of said first reflective
3 layer.

1 194. The optical disc according to claim 193 wherein said analyte structure is
2 disposed on a laser-proximal side of said first reflective layer.

1 195. The optical disc according to claim 193 wherein said analyte structure is
2 disposed on a laser-distal side of said first reflective layer.

1 196. The optical disc according to any one of claims 190, 191, or 192 wherein said
2 analyte structure is disposed between said first reflective layer and said semireflective
3 layer.

1 197. The optical disc according to any one of claims 188, 189, 190, 191, or 192
2 wherein said trackable structure includes wobble groove.

1 198. The optical disc according to claim 193 wherein said trackable structure
2 includes wobble groove.

1 199. The optical disc according to claim 194 wherein said trackable structure
2 includes wobble groove.

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cmx 1 ✓ 200. The optical disc according to claim 195 wherein said trackable structure
2 includes wobble groove.

1 201. The optical disc according to claim 196 wherein said trackable structure
2 includes wobble groove.

1 202. The optical disc according to claim 197 wherein said analyte structure is
2 disposed confocally with said wobble groove.

1 203. The optical disc according to any one of claims 190, 191, or 192 wherein said
2 reflective layer and semireflective layer are reversibly separable.

1 204. A method for making a forward image, positive relief, inverted optical disc
2 substrate having a trackable operational structure, said method comprising the steps of:
3 forming a stamper with a trackable operational structure identical in image
4 orientation and relief to a standard master; and

5 forming said optical disc substrate directly from said stamper.

1 205. A method for making a forward image, negative relief, inverted optical disc
2 substrate with a trackable operational structure, said method comprising the steps of:
3 forming a reverse master;
4 forming a stamper image orientation and relief opposite to said reverse master; and
5 forming a respective optical disc substrate directly from said stamper.

1 206. The method according to either claim 204 or 205 wherein said forming of said
2 optical disc is performed in a DVD mold.

1 207. A method for making a trackable optical disc having concurrently readable
2 analyte structures, said method comprising the steps of:
3 applying a reflective layer to a patterned surface of an inverted disc substrate as
4 prepared by the method of claim 204 or 205; and
5 disposing a analyte structure confocally with said reflective layer.

1 208. The method according to claim 207 wherein said disposing step further
2 includes disposing said analyte structure laser-proximal to said reflective layer.

1 209. A method for making a trackable optical disc having concurrently readable
2 analyte structures, said method comprising the steps of:
3 applying a reflective layer to said patterned surface of a respective disc substrate
4 according to any one of claims 156, 157, 158, 159, or 160; and
5 disposing a analyte structure confocally with said trackable operational structure.

1 210. The method according to claim 209 wherein said disposing step further
2 includes disposing said analyte structure laser-proximal to said trackable operational
3 structure.

1 211. The method according to either claim 209 or 210 wherein said trackable
2 operational structure includes a wobble groove.